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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/729,833	12/06/2000	Pei-Ren Jeng	4425-090	5660

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EXAMINER
LEE, HSIEN MING

ART UNIT	PAPER NUMBER
2823	6

DATE MAILED: 10/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action	Application No. 09/729,833	Applicant(s) PEI-REN JENG	
	Examiner Hsien-Ming Lee	Art Unit 2823	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 17 October 2002 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.

2. ☐ The proposed amendment(s) will not be entered because:

   (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);

   (b) ☐ they raise the issue of new matter (see Note below);

   (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

   (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____.

3. ☒ Applicant's reply has overcome the following rejection(s): *See Continuation Sheet*.

4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

5. ☒ The a)☐ affidavit, b)☐ exhibit, or c)☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: *See Continuation Sheet*.

6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.

7. ☐ For purposes of Appeal, the proposed amendment(s) a)☐ will not be entered or b)☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: _____.

   Claim(s) objected to: _____.

   Claim(s) rejected: _____.

   Claim(s) withdrawn from consideration: _____.

8. ☐ The proposed drawing correction filed on _____ is a)☐ approved or b)☐ disapproved by the Examiner.

9. ☐ Note the attached Information Disclosure Statement(s)(PTO-1449) Paper No(s). _____.

10. ☐ Other: _____

Continuation of 3. Applicant's reply has overcome the following rejection(s): 112-second-paragraph rejection to claims 51, 53 and 54 and claim objection to claims 55, 58 and 60.

Continuation of 5. does NOT place the application in condition for allowance because the arguments are NOT persuasive.

Applicant's arguments is on the ground that Chen does not disclose the features of the present invention because the etching rate of the doped region 212 of Chen must be larger than that of the other part of the dielectric layer 204, which is opposite to the claimed invention. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., " the etching rate of the doped region must be lower than that of the other part of the dielectric layer") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In fact, the present invention merely recites " etching said exposed dielectric layer and said dense region simultaneously under the masking of said second patterned phtoresist until a portion of said substrate is exposed", which reads on Chen reference as shown in Fig. 2D and related text as set forth in the Final rejection.

Applicant also argues that the first photoresist layer is used to form the via region and the second phototresist layer is used to form the trench and the via hole but the present invention utilizes the first photoresist layer to form the trench region and the second photoresist layer to form the via hole and the trench. In response to this argument although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. Particualy, the present invention merely recites " providing a first patterned photoresist on said dielectric layer to expose a portion of said dielectric layer at which at least a portion of a trench is to be formed", wherein the utilization of the first patterned photoresist is merely to " expose a portion of said dielectric layer" NOT " to form the trench" because of the presence of the phrase " a trench is TO BE formed." (emphasis added) In other words, the present invention does not expressly recite how and where to form the trench. The same true also holds to the case of the " second patterned photoresist."

Applicant further argues that the dense regions 540/640 of Jeng cannot be removed during the etching process to form the opening of the dual damascene because the etching process is finished until exposing the surface of the dense regions 540/640. Contrary to the argument, Jeng in Figs. 5B-5C and related text on col. 5, lines 51-56, expressly indicates that an etching process is performed by means of the second photoresist layer 570 as as etched mask to etch THROUGH the hard mask layer 560,the second dielectric layer 550 and the first dielectric layer 510 UNTIL surface of the substrate 500 is EXPOSED for patterning the dual damascene. Since the etching process etaches all the way through from the uppermost layer 560 to the surface of the lowest layer 500, there is NO reason that the intermediate layer 540/640 cannot be removed during the etching process to form the dual damascene.

Muller and Wu references are used to remedy the deficiencies of Jeng reference. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

For the reasons above, the rejection as set forth in the Final rejection is deemed proper.

Olik Chaudhuri
Supervisory Patent Examiner
Technology Sector 2800